

REMARKS

Applicant seeks reconsideration of the application. Three claims have been canceled, one claim has been added and two claims have been amended. Accordingly, Claims 28-31 and 33-34 and 37 are pending.

I. Claims 28-34 Rejected Under 35 U.S.C. § 103

In the Office Action, Claims 28-34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakaguchi et al. (U.S. Patent No. 5,966,620) in view of Applicant's acknowledged prior art figure 2 (FIG. 2). Applicant respectfully traverses this rejection.

To establish a prima facie case of obviousness, the prior art references when combined must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination must be found in the prior art, not in applicant's disclosure. Applicant respectfully submits that even if FIG. 2 and Sakaguchi could be combined, the combination does not teach or suggest all the limitations of Claims 28-31, 33-34 and 36.

As to the amended Claim 28, Applicant submits that neither FIG. 2 nor Sakaguchi discloses or suggests a dielectric layer of a first substrate portion bonded directly to a device surface of a second single crystal substrate portion. Sakaguchi discloses a substrate 15 that is coupled to the single crystal substrate 11 via an ion accumulation layer 14, a nonporous thin film 12 and an insulation layer 13 (Sakaguchi, Figure 1C). More specifically, the insulation layer 13 of Sakaguchi is bonded to a nonporous layer 12. Accordingly, Sakaguchi does not teach or suggest a dielectric layer of a first substrate portion bonded directly to a device surface of a second single crystal substrate portion, as claimed in Claim 28.

FIG. 2 of the patent application does not disclose or suggest a dielectric layer of a first substrate portion bonded directly to a device surface of a second single crystal substrate portion either. FIG. 2 of the patent application discloses a second layer 206 made of a polycrystalline silicon or amorphous silicon. Accordingly, there is nothing in FIG. 2 or in the corresponding text of the patent application that discloses a second

single crystal substrate portion having active device formed thereon, much less a dielectric layer of a first substrate portion bonded directly to a device surface of a second single crystal portion.

As to the amended Claim 31, Applicant submits that neither FIG. 2 nor Sakaguchi discloses or suggests a first device surface of a primary substrate connected directly to a second device surface of at least one secondary single crystal substrate. As noted above, Sakaguchi discloses a substrate 15 that is coupled to the single crystal substrate 11 via an ion accumulation layer 14, a nonporous thin film 12 and an insulation layer 13 (Sakaguchi, Figure 1C). Therefore, there is nothing in Sakaguchi that teaches or suggests a first device surface of a primary substrate connected directly to a second device surface of at least one secondary single crystal substrate, as claimed in Claim 31.

Additionally, FIG. 2 of the patent application does not disclose or suggest a first device surface of a primary substrate connected directly to a second device surface of a secondary single crystal substrate. Instead, FIG. 2 of the patent application discloses a second layer 206 made of a polycrystalline silicon or amorphous silicon. Accordingly, there is nothing in FIG. 2 or in the corresponding text of the patent application that discloses a secondary single crystal substrate, much less a first device surface of a primary substrate connected directly to a second device surface of at least one secondary single crystal substrate, as claimed in Claim 31.

In view of the foregoing, Applicant respectfully submits that Claims 28 and 31 are not obvious over Sakaguchi in view of FIG 2 and requests that the rejection of these claims be withdrawn. Dependent Claims 29, 30 and 33-34 are submitted as not being obvious in view of the relied upon prior art at least for the reasons given in support of their base Claims 28 and 31.

II. New Claim

Applicant submits that New Claim 37 is supported by the original disclosure. With respect to New Claim 37, Applicant incorporates the prior arguments with respect

to its base Claim 28. In view of the foregoing, Applicant is of the opinion that New Claim 37 is allowable over the cited references.

CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible data. If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

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Dated: 11/20/02

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Box Amendments, Non-Fee, Assistant Commissioner for Patents, Washington, D.C. 20231 on November 20, 2002.

Nadya Gordon 11/20/02
Nadya Gordon Date

Attachment: Version With Markings To Show Changes Made

Version With Markings To Show Changes Made

IN THE CLAIMS:

The claims are amended as follows.

28. (Amended) An apparatus comprising:

a first substrate portion having a dielectric layer on a surface[, the first substrate portion formed as a film of less than an entire portion of a starting material by demarcating a film thickness through an ion implantation into the starting material and separating the first substrate portion from the starting material]; and

a second single crystal substrate portion having active devices formed thereon and defining a device surface wherein the dielectric layer of the first substrate portion is bonded directly to the device surface of the second substrate portion, wherein selected ones of said active devices of said second substrate portion are intercoupled via metal lines [,

wherein said metal lines, intercoupling said active devices formed on said second single crystal substrate portion, are unimpaired by heat during fabrication].

31. (Amended) An apparatus comprising:

a primary substrate having a first level of devices formed thereon and defining a first device surface; and

at least one secondary single crystal substrate [coupled to the device surface, the at least one secondary substrate] having active devices formed thereon and defining a second device surface, wherein the first device surface of the primary substrate is connected directly to the second device surface of the at least one secondary single crystal substrate such that [and] selected ones of said active devices of said at least one secondary single crystal substrate are intercoupled via metal lines to selected ones of the first level of devices of the primary substrate [,

wherein said metal lines, intercoupling said active devices formed on said at least one secondary single crystal substrate, are unimpaired by heat during fabrication].

New claim 37 is added.